



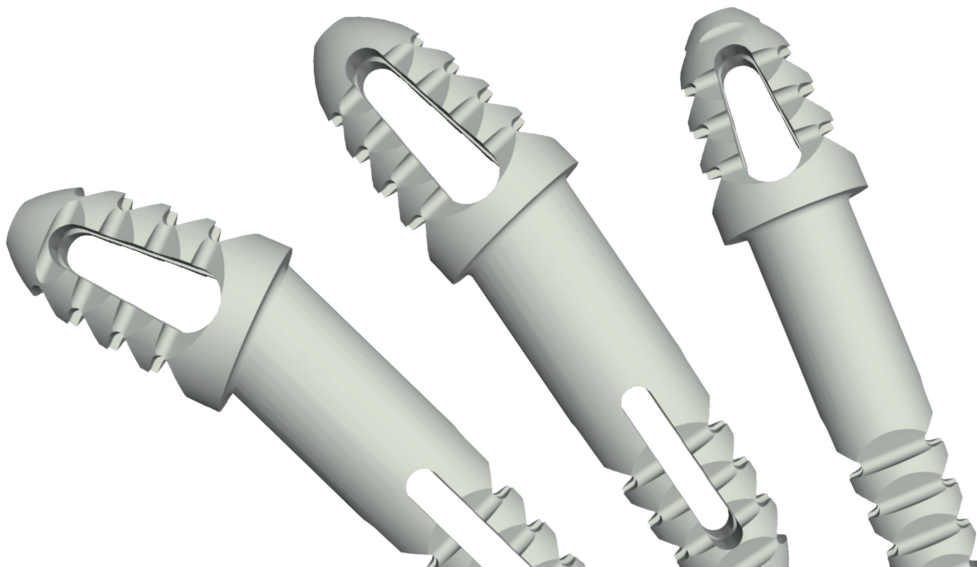
FOOT



# tictac

TOE INTERPHALANGEAL CAGE  
TOE ARTHRODESIS CAGE

**SURGICAL** TECHNIQUE



GROUP  
**FH** ORTHO™

# tictac

TOE INTERPHALANGEAL CAGE  
TOE ARTHRODESIS CAGE

**Indication: toe claws requiring proximal interphalangeal joint arthrodesis**

## 1. Surgical approach

Using a scalpel or Beaver blade, incise the skin to expose the interphalangeal joint.

The approach, longitudinal or transverse, will be carried out according to the surgeon's usual technique.

The transverse approach allows compression of the 2 phalangeal bone segments during closure and may be preferred for aesthetic reasons; the longitudinal approach may be preferred to facilitate exposure of the joint.

## 2. Resection of the distal condyles of the proximal phalanx P1 and the base of the intermediate phalanx P2



- **Proximal phalanx P1 (fig. 1):** resect the head of P1 with a saw or rongeur. The resection is performed below the condyles and is usually perpendicular to the axis of the proximal phalanx. Oriented cuts can also be made for implants with an angulation of 10 and 20°.
- **Intermediate phalanx P2 (fig. 2):** sharpening the base of P2 flush with the cartilage in order to remove as little bone as possible due to the reduced size of this phalanx. The resection is carried out with a saw or using the smallest size shaper.

**TRICK:**  
Resection of the collateral ligaments allows easier exposure by resecting the condyles in a single block.

### 3. Preparation of the intramedullary canal of P1 and P2

fig. 3

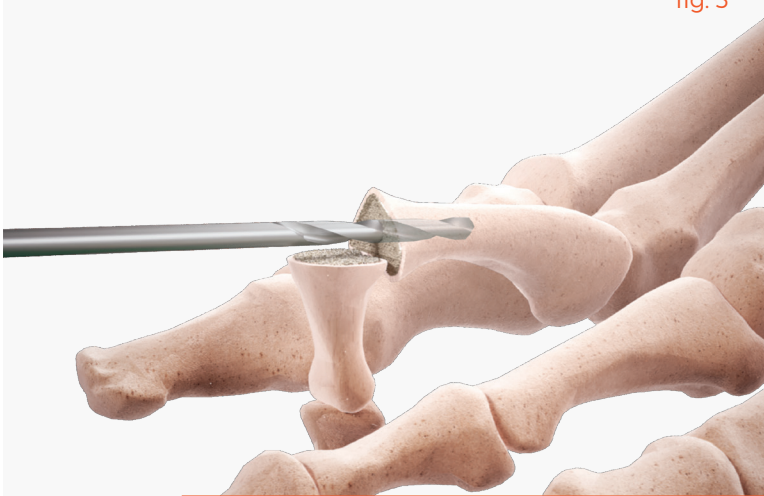


fig. 5



fig. 4

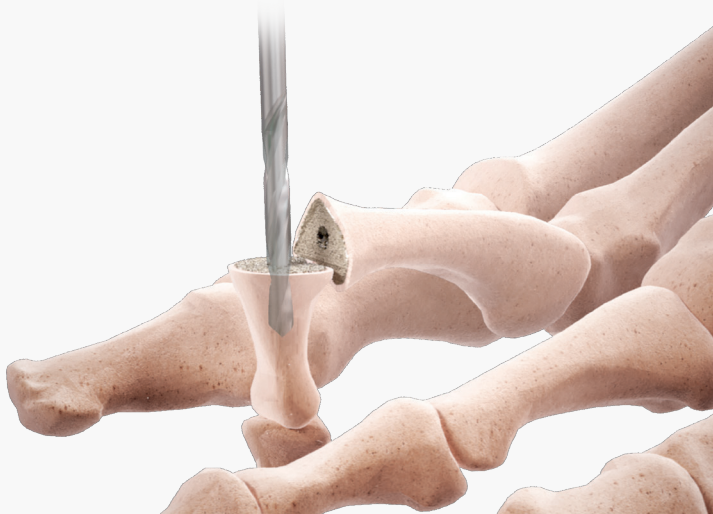


fig. 6



- Prepare a pilot hole in P1 (fig. 3) then P2 (fig. 4) with a 2 mm diameter drill bit (ref. 266 818) available in the instrumentation or a Shannon type percutaneous burr (ref. 256 020) inserted 10 - 15 mm deep. This preparation is carried out in the longitudinal axis of the proximal and intermediate phalanges.
- Use the P1 cage shaper (ref. 271 066 / 268 618 / 268 620 / 268 622) of the appropriate size to carry out the preparation of P1.
- To confirm the choice of the appropriate TICTAC implant size, the operator passes the shapers sequentially until blocking in P1. If a different size is noted, the smallest implant size will be chosen.
- Use the IPP P2 cage shaper (ref. 271 067 / 268 619 / 268 621 / 268 623) of the appropriate size to prepare P2 in case of dense bone.
- As a general rule, the sole use of P1 compactors for the proximal and intermediate phalanges is sufficient to carry out adequate preparation. If there are difficulties re-fitting the implant, the use of the P2 shaper may be necessary for additional preparation of the intermediate phalanx.

#### TRICK:

The size of the shaper used depends on the size of the bone and the implant chosen; it is recommended to carry out gradual preparation to avoid weakening the bone. A press fit effect is nevertheless sought after.

## 4. Implant placement

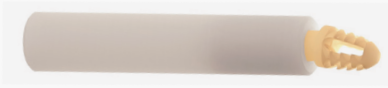


fig. 7

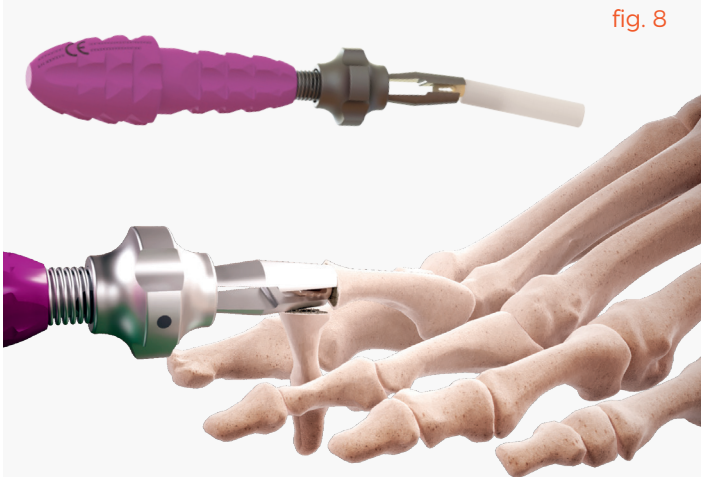


fig. 8



fig. 10



fig. 9



fig. 11

The choice of the angulation of the TICTAC implant that will be implanted ( $0^\circ$ ,  $10^\circ$  or  $20^\circ$ ) aims to return the patient's anatomy to a normal state.

In general, one will choose  $20^\circ$  for toes 2 and 3,  $10^\circ$  and  $0^\circ$  for toes 4, or even 5.

The choice of  $0^\circ$  angulation for all rays is also possible depending on the surgeon's preference.

The TICTAC implant is delivered sterile and presented on a single-use tubular plastic gripper (fig. 7).

An implant holder - gripper available in the instrumentation (ref. 271147) is then used to grip the distal part intended to be implanted in P2. It is equipped with a stop which allows appropriate implantation of the implant in P1 and avoids possible excessive depression (fig. 8).

- Presentation of the implant for insertion into the bone with the holder (fig. 9).
- Implant in P1 up to the stop of the holder (fig. 10), which leaves a space of 2 or 3 mm between the collar of P2 and the proximal phalanx.

Reduction maneuver:

- Replace P2, taking care to bring the two metaphyses into contact (fig. 11). A "click" is usually audible.

### TRICK:

We recommend orienting the implant correctly from the start to benefit from good primary anchorage with the pressfit effect of its distal part.

## 5. Re-orientation of the implant



If necessary, it is possible to use the driver holder

(ref. 268 624 ●) to reorient or remove the implant by sliding the end of the gripper into one of the perforated windows of the implant (except for smallest size XS 2,5 mm).

## 6. Closure

Closure in two planes is possible by taking the tendon.

### NB:

The material of the implant being PEEK, it is radio-transparent but can be visualized on the x-ray by hyper-clarity.

### TRICK:

Additional procedures are sometimes necessary if satisfactory pulpal support at the end of the procedure is not achieved

By order of preference:

1. Extensor tenotomy,
2. Arthrolysis of the dorsal metatarsophalangeal joint,
3. Osteotomy under the implant, taking care not to modify its anchoring because pressure is exerted on the toe.

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### > Implants



TICTAC  $\phi 2,5 - 0^\circ$   
ref. 270 390



TICTAC  $\phi 2,8 - 0^\circ$   
ref. 268 612



TICTAC  $\phi 3,1 - 0^\circ$   
ref. 268 614



TICTAC  $\phi 3,4 - 0^\circ$   
ref. 268 616



TICTAC  $\phi 2,5 - 10^\circ$   
ref. 270 391



TICTAC  $\phi 2,8 - 10^\circ$   
ref. 268 613



TICTAC  $\phi 3,1 - 10^\circ$   
ref. 268 615



TICTAC  $\phi 3,4 - 10^\circ$   
ref. 268 617



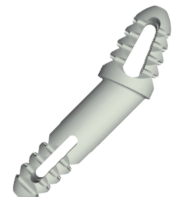
TICTAC  $\phi 2,5 - 20^\circ$   
ref. 270 392



TICTAC  $\phi 2,8 - 20^\circ$   
ref. 270 393



TICTAC  $\phi 3,1 - 20^\circ$   
ref. 270 394



TICTAC  $\phi 3,4 - 20^\circ$   
ref. 270 395

## > Instrumentation

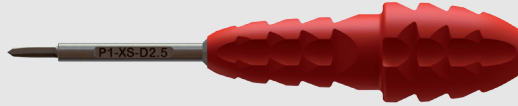
### DRILL Ø2

ref. 266 818



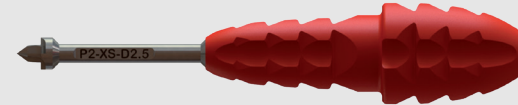
### IPP CAGE TICTAC SHAPER P1 Ø2,5 BEPOD

ref. 271 066



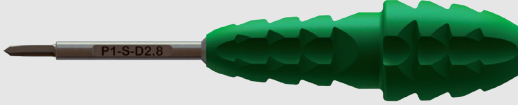
### IPP CAGE TICTAC SHAPER P2 Ø2,5 BEPOD

ref. 271 067



### IPP CAGE TICTAC SHAPER P1 Ø2,8 BEPOD

ref. 268 618



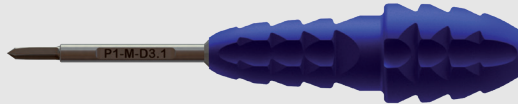
### IPP CAGE TICTAC SHAPER P2 Ø2,8 BEPOD

ref. 268 619



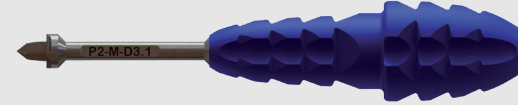
### IPP CAGE TICTAC SHAPER P1 Ø3,1 BEPOD

ref. 268 620



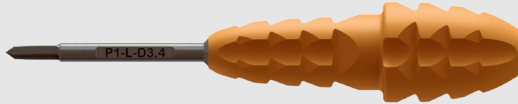
### IPP CAGE TICTAC SHAPER P2 Ø3,1 BEPOD

ref. 268 621



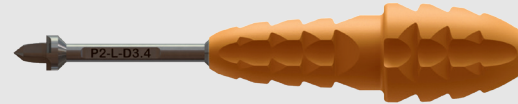
### IPP CAGE TICTAC SHAPER P1 Ø3,4 BEPOD

ref. 268 622



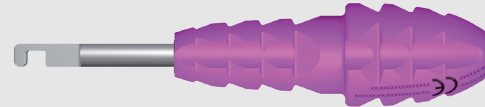
### IPP CAGE TICTAC SHAPER P2 Ø3,4 BEPOD

ref. 268 623



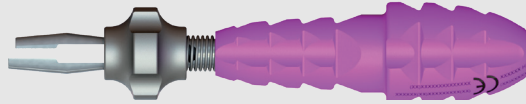
### IPP CAGE TICTAC DRIVER HOLDER BEPOD

ref. 268 624



### HOLDER BEPOD

ref. 271 147



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